

Hot Work with Arc Welding

The term 'hot work' refers to any labor involving open flames or produces sparks, or can start a fire by other means. This typically includes welding, wheel or torch cutting, brazing, soldering, and grinding, but it can include other work.

Because this type of work poses such a unique combination of both safety and health hazards to workers, it requires a substantial amount of controls. Thankfully, by following proper procedures and using the controls that are in place, these hazards can be greatly reduced.

First, employees exposed to the hazards created by hot work operations need to be protected by personal protective equipment (PPE). For body protection, employees performing hot work need to wear fire retardant long-sleeved clothing without cuffs.

Sleeves and collars should be kept buttoned. Avoid clothing with tears, snags, rips, or worn spots that could easily be ignited by sparks. Welding "leathers" that include jackets, sleeves, aprons and gauntlet gloves are proven protective equipment.

Also, feet should be protected with high top leather shoes, preferably safety shoes. If low shoes are worn, the ankles should be protected by fire resistant leggings. Hot work employees and helpers should wear suitable protection for their heads, faces, and eyes depending on the particular job. You have to consider sparks and bits of hot metal and the damage they can cause in these scenarios; sparks can be more distracting than directly dangerous and may present new risk associated with inattention.

Again, a reminder here to make sure the personal protective equipment (PPE) used by the workforce is well-maintained and in working order. **Eye injuries are the most common serious occupational injury for welders at about 25% of total welding injuries, annually.** Welding helmets and hand shields protect the eyes, face, neck, and ears from the harmful radiation produced by the arc. Never use a welding helmet or shield if the filter plate or cover plate is cracked or broken. A flame-proof skull cap is recommended to protect the hair and head. Transparent face shields and ventilated goggles provide insulation from heat.

This is an overlooked bit of information, but because of the potential for fire, explosion, or health hazards, it is strongly recommend that no welding, cutting, or hot work be attempted on used drums, barrels, or tanks that have not been properly cleaned and purged—it is best to abundantly sure about what's inside of these units before introducing any hot work.

If the welding operation must be done on steel or another conductive material, an insulating mat must be used under the welder. If the welding area is wet or damp or the welder is actively perspiring, then he should wear insulating rubber gloves under the welding gloves. The welding area should always be equipped with a fire blanket and a well-stocked first aid kit. Keep a fire extinguisher near by.

Finally, in noisy situations hearing protection is necessary.

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